

REMARKS

The applicants appreciate the Examiner's thorough examination of the application and request reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

As a preliminary matter, the applicants request that the Examiner change the record of the subject patent application to make clear that the Office Action mailed September 26, 2005 is a Non-Final Office Action, as explained to the undersigned by the Examiner by telephone on October 18, 2005.

As a further preliminary matter, the applicants request a telephone interview with the Examiner should the Examiner not be persuaded by the written arguments and amendments herein.

Under the Examiner's analysis, the claims in the subject application, U.S. application Ser. No. 10/621,155, the newly cited patent U.S. Pat. No. 6,911,955, and the combination of references *Greene* plus *Coffy* have all been reduced to the "idea" of a radome and/or the "idea" of fibers in a matrix, and the Examiner has rejected the subject claims on that basis.

Basing rejections on an "idea", however, is contrary to law.

"Reducing a claimed invention to an 'idea', and then determining patentability of that 'idea' is error...Analysis properly begins with the claims for they measure and define the invention." See Jones v. Hardy, 727 F.2d 1524, 220 USPQ 1021, 1024 (Fed. Cir. 1984) (with citations omitted).

The claims of the subject application are distinct from and patentably non-obvious over:
a) U.S. application Ser. No. 10/621,155; b) U.S. Pat. No. 6,911,955; and c) the combination of references *Greene* plus *Coffy*.

The Examiner first rejects the claims under 35 U.S.C. §112, second paragraph. The Examiner also rejects the claims under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,506,269 to *Greene* in view of U.S. Patent No. 5,360,503 to *Coffy*.

With respect to the rejections under §112, the Examiner states:

Applicant argues that the term flexible used in the current claims language actually adds or makes opposite the teaching of a rigid composite. Applicant claims a flexible composite however never defines what the term flexible means. When taking the literal or dictionary definition of the term, it means that which can be bent without breaking or easily bent in all directions. Please clarify and point out in the specification where this definition lies and what is meant by the term flexible. There are no working examples or properties of tensile strength etc claimed in the claims or shown in the specification that would differentiate it from the cited prior art. Furthermore, it should be noted that both the cited art and the instant application both use thermoset resins, so how would the composite not be flexible? Additionally, even a steel beam has some flexibility.

It is not the simple “idea” of “flexible” without any context that is at issue. Instead, analysis properly begins with the claims for they measure and define the invention. See Jones v. Hardy, supra.

Claim 1 recites a radome comprising flexible composite fabric material including polyester-polyarylate fibers in a flexible resin matrix.

There is ample support for the term “flexible” in the context of the claim.

First, the applicants’ specification gives examples of air-supported flexible fabric radomes and stretched membrane radomes, as known in the art, although the applicants’ claimed invention is not so limited. See the applicant’s specification at page 6, lines 18-19.

Those of ordinary skill in the art are quite familiar with flexible radomes such as air supported radomes and stretched membrane radomes (and rigid radomes, in contrast). Those

skilled in the art know the difference between radomes made with flexible skins and those made to have rigid walls just the same as those *not* skilled in the art understand a steel beam to be generally inflexible and a rubber band to be generally flexible. Those skilled in the art of radomes know, for example, a radome with a c-sandwich wall is a rigid walled radome. Those skilled in the art understand the tensile strength, etc. of a c-sandwich radome wall does not need to be explained in order to understand that a c-sandwich wall radome is a rigid walled radome instead of a flexible-wall radome. One *not* skilled in the art may not understand there are significant engineering differences between a flexible-wall radome and a rigid-wall radome but that is irrelevant. We all know, for example, a patent application is not a form to be filled out but some people don't. Taken to another extreme, all matter, rigid and flexible, is actually in motion.

But here we are talking about radomes and flexible versus rigid radome material. Those skilled in the radome arts readily understand what is meant by claim language reciting a radome with "flexible composite fabric material". If the Examiner thinks such a description could describe a steel beam, that is irrelevant since the Examiner is not one skilled in the radome arts. In this regard, the applicants note that the broadest reasonable interpretation of the claims must be consistent with the interpretation that those skilled in the art would reach. See MPEP §2111, citing In re Cortwright, 165 F.3d 1353, 1359, 49 USPQ 2d 1464, 1468 (Fed. Cir. 1999).

Additionally, the applicants' specification discloses that the subject invention includes polyester-polyarylate fibers as the structural reinforcement in the flexible composite fabric material of the resulting radome, and that e.g. the polyester-polyarylate fibers can be readily woven into fabric, which may be cloth. See e.g. the applicants' specification at page 8, lines 18-22. Cloth is flexible, steel beams are not.

Also, the claimed radome made of, *inter alia*, flexible composite fabric material is in clear contrast to U.S. Patent No. 4,506,269 to *Greene*, which teaches a polycarbonate [rigid material] c-sandwich wall [for rigidity] radome capable of withstanding continuous rain impact at a constant speed of 500 mph for a minimum of one hour without showing harmful effects, and which must undergo a compressive buckling test. See e.g. *Greene* column 1, lines 65-68; column 2, line 66 through column 3, line 3; and column 4, lines 62-68. The applicants' claimed flexible composite fabric material which, in one example may be cloth, is in sharp contrast -- in fact the opposite of -- the polycarbonate c-sandwich wall taught by *Greene*.

Consequently, *Greene* teaches away from the applicants' claimed radome. Thus, the applicants' claimed invention is not obvious over *Greene* (or the combination of *Greene* and *Coffy*, as *Coffy* does not disclose a radome at all).

In summary, in the proper context of the applicant's claim, the term flexible is not indefinite. It is amply supported by the specification, as well as the state of the art and the knowledge or those skilled in the art. Furthermore, in the context of the claim, one skilled in the art (or not) would understand that the claimed flexible composite fabric material radome is in sharp contrast to a rigid polycarbonate c-sandwich wall.

With respect to the provisional double patenting rejection of the claims of the subject application over claims 1-20 of co-pending application Ser. No. 10/621,155 the Examiner states:

With regard to the Applicant's traversal of this rejection, it should be noted that Applicant never defines what is meant by the term "rigid" or "flexible" in either patent application, and thus the Examiner in giving the claims their broadest reasonable interpretation sees the exact same fibers, that is polyester-polyarylate in a resin matrix.

It is not the "idea" of the "same fibers ... in a resin matrix" that is at issue or that is being

patented, however. Instead, it is the claims as a whole which must be considered. See e.g. Jones v. Hardy, supra.

First, as noted above, polyester-polyarylate fibers serve as the structural reinforcement in the flexible composite fabric material of the resulting radome. Also, types of flexible radomes -- such as the aforementioned air-supported flexible fabric radomes and stretched membrane radomes -- are known in the art. Rigid radomes -- including typical materials thereof -- are also known in the art, as described in the background of Ser. No. 10/621,155.

Second, the recited matrix in the claims is not simply "a resin matrix".

Claim 1 of the subject invention recites a radome comprising flexible composite fabric material including polyester-polyarylate fibers in a flexible resin matrix.

Claim 1 of Ser. No. 10/621,155 recites a radome or feedome comprising at least one rigid panel including composite material having polyester-polyarylate fibers in a rigid resin matrix material.

Anyone reading these claims - whether or not skilled in the art - would find a clear distinction between a flexible fabric in a flexible matrix and a rigid panel in a rigid matrix. Flexible resin matrix materials, such as polyurethane resin system as claimed in the subject application, are used in flexible radomes. Rigid resin matrix materials, in contrast, such as epoxy as claimed for example in Ser. No. 10/621,155, are used in rigid radomes.

It is clear, especially to those skilled in the art, that flexible fabric radomes -- as claimed in the subject application -- are in sharp contrast to rigid radomes as claimed in Ser. No. 10/621,155. Consequently, Ser. No. 10/621,155 teaches away from the applicants' claimed radome. Thus, the applicants' claimed invention is not obvious over Ser. No. 10/621,155, and cannot be subject to an obvious-type double patenting rejection. (See e.g. MPEP §804 II.B.1.,

quoting *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967), regarding any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination.)

With respect to the new rejection of the claims under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Pat. No. 6,911,955, the Examiner states:

Although the conflicting claims are not identical, they are not patentably distinct from each other because they appear to be obvious variants of one another, namely in that the claims in combination with one another of the Patent formulate the same invention as the instant application, that is a radomes [sic] made from woven flexible fabric disposed in a polyurethane resin.

Once again, it is not the “idea” of “radomes made from woven fabric disposed in a polyurethane resin” that is at issue or that is being patented. Instead, it is the claims as a whole which must be considered. See e.g. *Jones v. Hardy, supra*.

Claim 1 of the subject invention recites a radome comprising flexible composite fabric material including Polyester-Polyarylate fibers in a flexible resin matrix.

Claim 80 of U.S. Pat. No. 6,911,955 does not teach or suggest Polyester-Polyarylate fibers at all, or their advantages. Moreover, in further contrast to claim 1 of the subject invention, claim 80 of U.S. Pat. No. 6,911,955 recites a novel and non-obvious joint between a plurality of flexible fabric sections. In particular, claim 80 recites, *inter alia*:

a joint between adjacent first and second sections wherein the first section has an edge with a first ply thereof extending outward from a second ply, the second adjacent section has an edge with a first ply thereof offset inward from a second ply, and the first ply of the first section is disposed on the second ply of the second section.

In other words, on the one hand is a radome comprising flexible composite fabric material including polyester-polyarylate fibers in a flexible resin matrix. On the other hand is a radome without polyester-polyarylate fibers but including a joint between adjacent first and second sections wherein the first section has an edge with a first ply thereof extending outward from a second ply, the second adjacent section has an edge with a first ply thereof offset inward from a second ply, and the first ply of the first section is disposed on the second ply of the second section.

The Examiner has provided no evidence whatsoever to support the conclusion that these vastly different claims are obvious over one another, other than the “idea” of “radomes made from woven fabric disposed in a polyurethane resin”. As noted above, however, reducing a claimed invention to an idea, and then determining patentability of that idea is error. Analysis properly begins with the claims. It is the claims that measure and define the invention, and under that analysis, the claims are novel and nonobvious over the claims of U.S. Patent No. 6,911,955.

Accordingly, the applicants’ independent claim 1 is clearly in condition for allowance. To advance prosecution, independent claims 17-19 have been amended to more clearly recite, *inter alia*, a flexible fabric radome, and thus are also in condition for allowance. Claims 2-16 depend directly or indirectly from claim 1. Claims 20-33 depend directly or indirectly from claim 19. Thus, dependent claims 2-16 and 20-33 are also in condition for allowance for at least the foregoing reasons.

New claim 34 specifically recites an air-supported flexible fabric or stretched membrane radome comprising flexible composite fabric material including polyester-polyarylate fibers in a flexible resin matrix material. Therefore, for at least the reasons above in addition to the fact that claim 34 includes the recitation of an air-supported or stretched membrane radome, claim 34 is

also in condition for allowance.

CONCLUSION

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that claims 1-34 are in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts at (781) 890-5678.

Respectfully submitted,



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